

**APPENDIX D**  
**FLOODPLAINS/WETLANDS ASSESSMENT REPORT**

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### INTRODUCTION

Platte River Power Authority (Platte River) proposes to upgrade and/or rebuild portions of the existing transmission lines within the existing transmission line right-of-way (ROW) in the vicinity of Fort Collins, Colorado and north of the city to the Rawhide Energy Station (see **Figure 1-1** of the Environmental Assessment). Western Area Power Administration (Western) is the lead federal agency for the Proposed Project. A description of the Proposed Project is described in the following sections. This Floodplains/Wetlands Assessment Report was prepared as a supporting document to an Environmental Assessment (EA) prepared for the Proposed Project.

### PROJECT DESCRIPTION

Platte River is proposing to add additional generation at its Rawhide Energy Station, which is located approximately 18 miles due north of Fort Collins, Colorado. In order to accommodate additional power generation, additions, rebuilds and upgrades are needed for the high-voltage transmission system in the Fort Collins area.

Part of the Proposed Project consists of stringing a second 230kV line onto existing double-circuit structures at two locations: between the Rawhide Energy Station and the LaPorte Substation; and between the Timberline Substation and the Poudre Substation (see **Figure 1-1** of the EA). In addition, Platte River proposes to rebuild and upgrade the existing single-circuit 115kV wood pole lines to double-circuit lines designed for 230kV at two locations: between the LaPorte Tap and the Poudre Substation; and between the Poudre Substation and the Richards Lake Tap. All proposed construction activities would take place within the ROWs of the existing transmission lines.

The average heights of the new poles will be approximately 85-105 feet. Typical spans for the proposed structures are approximately 600 to 700 feet and the ROW widths are 75-100 feet. The Proposed Project will be constructed to National Electrical Safety Code standards. Operation of the proposed line will not present additional safety or electrical hazards to the general public.

### ACTIVITIES AFFECTING FLOODPLAINS/WETLANDS

Based on the Larimer County floodplain map data (Larimer County, 2000), a portion of the ROW for the Proposed Project is located within the designated 100-year floodplain (base flood) for the Cache la Poudre River as shown on **Figure 3-3** of the EA. Wetlands and riparian areas within the Project Area are typically small, linear bands along the Cache la Poudre River and its tributaries.

Wetlands are defined as those areas inundated or saturated by surface or groundwater often enough to support hydrophytic plants, create hydric soils, and maintain wetland hydrology.

Wetlands are important in groundwater recharge and nutrient recycling processes, are instrumental in sediment and flood control, and provide habitats for fish and wildlife.

In terms of delineations, wetlands in the Project Area have been mapped using at least one of two systems of delineation, depending upon their location. They are the USFWS' National Wetlands Inventory (NWI) system and the Larimer County Partnership Land Use System (PLUS). Wetlands in the northern one-third of the Project Area were mapped using the NWI system. This portion includes the Project Area from the Rawhide Energy Station south to the North Poudre Reservoir Number 15. Wetlands in the remaining southern portion of the Project Area were delineated using the PLUS.

The wetlands mapped using the PLUS were previously inventoried and mapped as part of the *Proposed Wetland Classification and Protection Program* (Cooper and Merritt, 1996). This classification system delineated wetlands as defined by both the Clean Water Act (CWA) legal and jurisdictional wetlands regulated by the U.S. Army Corps of Engineers, and also based on and National Wetlands Inventory (NWI) maps prepared by the U.S. Fish and Wildlife Service (USFWS, 1975). The CWA requires that all three parameters (wetland hydrology, hydric soils, and hydrophytic plants) be present for an area to be defined as a wetland. Hydric soils within Larimer County are delineated in the *Comprehensive Hydric Soils List, Larimer County Area, Colorado* (SCS, 1993). The USFWS defines wetlands as areas that meet at least one of the three parameters.

A local classification system was also employed to quantify the importance and function of each wetland. Wetlands were designated into wetland complexes by the types of functions performed, quality, sensitivity to human disturbance, and overall resource value. The resulting wetland map was adopted as part of the *Larimer County Master Plan* (LCPD, 1997). The wetlands delineated in the vicinity of the Proposed Project are shown on **Figure 3-5** and were also verified by field visits as discussed in the Biological Assessment Report (**Appendix C** of the EA).

The ROWs of the existing transmission lines and for the Proposed Project cross several wetland or riparian areas that are designated by the City of Fort Collins as Natural Areas (*Manci, 2000*) or are otherwise recognized as ecologically sensitive. These areas are encompassed by the area designated as the "Poudre River Corridor" and recognized by the City of Fort Collins as an area of high quality wildlife habitat (**Figure C-2** of **Appendix C** of the EA).

Wetlands and riparian areas within the Project Area range from small, linear bands along foothill tributaries to the riparian forest types along the Cache la Poudre River. Many of the wetland areas have previously been modified by urbanization or agriculture. Existing modifications to wetlands in the Project Area include historic gravel mining operations and bank stabilization for bridge crossings or recreation trails, and heavy grazing. The impacts from gravel operations are especially evident east of the beginning of the LaPorte Tap line along the Cache la Poudre River. Many of the mining areas are reclaimed and are in various stages of succession. The impacts from grazing include stream bank cutting and wetland compaction.

Based on the NWI and field visits (see Biological Assessment Report, **Appendix C** of the EA), there are four different wetland types found in the northern third of the ROW for the Proposed

Project all in small proportions. These are Palustrine Emergent; Riverine-Intermittent Streambed, Natural and Artificial; and Palustrine Flat. These four types of wetlands are found in small, but relatively equal portions along Rawhide, Boxelder, and Park Creeks. These wetland types are defined as follows (USFWS, 1979):

- Palustrine Emergent – shallow, non-saline areas, at least periodically saturated with water supporting trees, shrubs or herbaceous hydrophytic vegetation. This includes swamps, marshes or bogs, but may also include shallow ponds with permanent or intermittent water sources.
- Riverine-Intermittent Streambed, Natural – wetlands contained within a channel with an intermittent, natural water source.
- Riverine-Intermittent Streambed, Artificial - wetlands contained within a channel with an intermittent water source. The term refers to ditches and canals.
- Palustrine Flat - shallow, non-saline areas, at least periodically saturated with water. The term “Flat” is not a Palustrine class and means mud flat area upgradient from Park Creek.

Based on the PLUS system and field visits, five different wetland types were identified in the southern two-thirds of the Project Area. These types, in order of spatial extent, include forested riparian, herbaceous wet meadow, lacustrine littoral, herbaceous palustrine marsh, and woody (tree/shrub) palustrine marsh. These wetland types under the NWI are defined as follows (PLUS, 1996):

- Forested riparian wetlands are generally located in linear bands adjacent to wetland zones, and are typified by an interspersed of wetland and upland plants.
- Herbaceous wet meadow refers to grassland with waterlogged soil near the surface, but for most of the year is without standing water.
- Lacustrine/littoral wetlands are those areas along the shoreline of lakes, reservoirs, or impoundments where aquatic and emergent vegetation can grow.
- Palustrine marshes are defined as seasonally or perennially inundated wetlands characterized by standing water and characterized as bare soils without vegetation.
- Herbaceous palustrine marshes are palustrine marshes characterized by herbaceous vegetation adapted to saturated soil conditions.
- Woody palustrine marshes are dominated by trees or shrubs.

In the Project Area, the forested riparian and herbaceous meadow types are found in the greatest proportions to other wetland types and are found mainly along the Cache la Poudre River. These riparian areas serve as buffer zones between urban and agricultural land uses and the aquatic and riverine systems. Important functions of riparian areas include detention of runoff and the resulting reduction in the amounts of sediments, nutrients and pollutants received by the streams and wetland ecosystems. Riparian areas also serve as corridors to allow for the movement of animals and plants from one habitat to another.

Many of the wetlands and riparian communities in the Project Area are designated by the Colorado Natural Heritage Program (CNHP) as “Rare and Imperiled Animals, Plant and Natural Communities” (CNHP, 2000), as areas in need of protection, and mapped as Sensitive Areas on **Figure C-2 in Appendix C** of the EA. These areas include City of Fort Collins properties that

are designated as Natural Areas (Larimer County Parks, 1993). The City of Fort Collins Natural Areas and other parcels included in the Project Area, traveling from the first Cache la Poudre River crossing downstream, are the Poudre River Trail Area, McMurry Area, Hickory Area, Mulberry Water Reclamation Facility, Springer Area, Bignall Area, Nix Area, and Coterie Area.

Portions of the ROWs of the existing transmission lines are located within designated 100-year floodplain and wetland areas. The only project-related ground disturbance activity planned within floodplains and wetland areas is the replacement of the existing H-frame wood poles between the LaPorte Tap and the Richards Lake Tap with new single-column steel poles in the same approximate locations as the existing poles.

## **FLOODPLAINS/WETLANDS EFFECTS**

During project-related construction activities, ground disturbances will occur during removal of the existing H-frame wood poles and installation of new steel poles between the LaPorte Tap and the Richards Lake Tap. During these activities, there is a potential for additional sediment loading to local drainage-ways due to soil erosion and runoff, and the possibility of oil or fuel spills from malfunctioning equipment. Standard Construction Practices (**Appendix F** of the EA) will be used to minimize these potential effects. The effects due to the project-related construction activities within floodplains/wetland areas are anticipated to be short-term, temporary, and minimal.

No construction activities will be performed in the Cache la Poudre River or other watercourses because the transmission line will span these areas; however, it is not possible to avoid placing some of the new poles within floodplain/wetland areas. Construction activities within the floodplain will be performed during low flow conditions. No watercourses or drainage patterns will be altered by the Proposed Project. Flood storage volume will not be affected. Removal of the existing poles and construction of the new poles is not expected to affect existing flood characteristics. No measurable change in flood stage is anticipated to result from implementation of the Proposed Project.

No long-term adverse effects to floodplains are anticipated to result from implementation of the Proposed Project.

## **ALTERNATIVES**

Because portions of the ROWs of the existing transmission lines are located within 100-year floodplain and wetland areas, and due to the width of the floodplain in the vicinity of the ROW, it is not possible to avoid placing the new poles within floodplains/wetland areas. These areas are where the existing transmission lines and structures were originally located.

If no action were taken, the exiting transmission lines located in floodplains/wetlands areas will continue to be used. Routine maintenance activities and repairs to the existing line are likely to require some occasional, temporary construction activities or disturbances within the floodplains/wetlands areas.